4-H Health Jam

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Program of Distinction Category:

Leadership, Citizenship, and Life Skills Categories

- Workforce Preparation

Science, Engineering, and Technology Literacy Categories

- Foods & Nutrition

Healthy Lifestyles Categories

- Youth Obesity
- Nutrition Education
- Health & Fitness

Organizational Strategies Categories

- Partnerships & Grants

Sources of Funding:

University of Kentucky Health Education Extension Leadership (HEEL) Grant, Southside & South Central Jefferson County 4-H Zone Support Committees

Knowledge and Research Base

In 2003, The Centers for Disease Control determined Kentucky to be the least active state in the nation. According to the Health Status Assessment released by the Louisville Metro Health Department in 2004, the top five leading causes of death in Louisville Metro are heart disease, lung cancer, stroke, chronic obstructive pulmonary disease, and diabetes. The primary causes of these heath problems are obesity, poor diet, hypertension, sedentary lifestyles, and smoking. Sixty percent of the Louisville Metro

population is overweight or obese. Over nine percent of Louisville Metro residents reported having diabetes compared to 6.1% for the nation.

Nationally, physical inactivity has contributed to an unprecedented epidemic of childhood obesity (Report to the President, 2000). The percentage of young people who are overweight has doubled since 1980. Of children aged 5 to 10 who are overweight, 61% have one or more cardiovascular disease risk factors, and 27% have two or more. Increasing numbers of teens and preteens are developing Type 2 diabetes, which was long considered an "adult-onset" disease. Obesity in adolescence has also been associated with obesity in adulthood (Report to the President, 2000).

The good news is that many of these health problems can be prevented and improved with changes in lifestyle (Health Status Assessment, 2004). Moderate exercise combined with healthy eating can reduce the risk of heart disease, stroke, and diabetes and combat growing levels of obesity in children and adults.

Practicing healthy lifestyles at a young age is key to preventing health problems that are largely associated with unhealthy lifestyles (Report to the President, 2000). Research has shown that changing a lifestyle habit is a difficult goal to accomplish and people need a tremendous amount of support to move to the action stage of improving their overall physical fitness levels (Physical Activity and Health: A Report of the Surgeon General, 1996; Report to the President, 2000). Many chronic health problems can be averted if children learn the importance of exercise and healthy food choices and develop daily exercise habits. If children learn at a young age to incorporate physical activity and healthy eating habits into daily routines, they can develop lifestyle habits that will ultimately affect their health and may prevent the occurrence of chronic diseases associated with lifestyle choices (Physical Activity and Health: A Report of the Surgeon General, 1996).

The challenge to educators is how to motivate youth to participate in daily exercise and continue those efforts on an on-going basis. Research has shown that influences on physical activity patterns among adults and young people include: 1) confidence in one's ability to engage in regular physical activity; 2) enjoyment of physical activity; 3) support from others; 4) positive beliefs concerning the benefits of physical activity; 5) and lack of perceived barriers to being physically active (Physical Activity and Health: A Report of the Surgeon General, 1996; Report to the President, 2000). The Jefferson County 4-H Health Jam incorporated strategies to promote, support, and sustain daily physical activity for the 38 participating youth.

Needs Assessment

The facts about Louisville Metro's overall health status indicates an unhealthy population that is at high risk for chronic diseases related to poor nutrition and lack of physical activity. Almost 60% of Louisville residents are overweight; 28.6% are obese. Seventy-eight percent are not eating five or more servings of fruits and vegetables per day. Thirty-five percent engage in no leisure time physical activity. Louisville has higher rates of heart disease, strokes, and diabetes compared to the national average (Mayor's Healthy Hometown Report, 2004).

The youth of Louisville Metro are at high risk of developing chronic health problems due to lifestyle and nutrition choices. These chronic health problems can be prevented through early intervention and the adoption of daily moderate physical activity and healthy eating habits (Report to the President, 2000).

Goals and Objectives

Short Term Outcomes:

- Youth will demonstrate increased knowledge regarding:
  - The relationship between physical activity and personal health
  - How physical exercise benefits the body's cardiovascular and musculoskeletal systems
  - Making healthy food choices that compliment physical activity in improving personal health
- Youth will set a personal goal of achieving 30 minutes of daily physical activity for eight weeks to complete the Walk across Kentucky.
- Youth will have an increased awareness of career opportunities in the health care industry.
- Youth will set a personal goal of becoming and remaining physically fit and active.

Intermediate Outcomes:

- Youth will complete 30 minutes of daily physical activity.
- Youth will choose physical activity over more sedentary activities.
- Youth will apply the knowledge they have gained to personal food choices.
- Youth will more fully explore potential health care career opportunities.
- Youth will complete the eight week "Walk across Kentucky."

Long Term Outcomes/Goals:

- Youth will develop a habit of daily physical activity.
- Youth will become physically fit and reduce the occurrence of chronic disease.
- Youth will develop skills that allow them to remain physically fit throughout their lives.

Target Audience

The target audience for the 4-H Health Jam was 4th and 5th grade students enrolled in Health Promotions Schools of Excellence in Jefferson County, Kentucky, a city with a population of over 650,000. The participants were 4-H school club members in two schools.

The 4-H Health Jam would be suitable for a variety of geographic settings which have access to local or regional health care systems and universities with majors in health careers. The program is also appropriate

for 4-H members in special interest groups, theme camps or community clubs. The program is suitable for youth ages nine to 12 and could be easily adapted for middle and high school youth by increasing the knowledge and health careers content component of the program.

Program Design and Content

Type of program

The program is a 4-H overnight camping program combined with a 4-H school enrichment program of eight weekly sessions.

Methods used to deliver the program

The Jefferson County Cooperative Extension Service, working in collaboration with eight community partners, conducted a nine week program to promote healthy lifestyles to elementary-age youth at risk for chronic health problems related to poor diets and sedentary lifestyles.

Thirty-eight youth participated in the 4-H Health Jam, a two-day overnight camp that immersed the youth in creative exercise activities, experiential study of body systems, exploration of health careers, and an assessment of personal eating habits. The youth also began an eight week "Walk across Kentucky" as part of the *Get Moving Kentucky!* Physical Activity Program. Youth were grouped in teams of four with the goal of each team member completing thirty minutes of daily physical activity. Thirty minutes of exercise is equivalent to two Physical Activity Miles (PAM's). At the end of eight weeks, each team "walked" the 448 miles from eastern to western Kentucky. Participants kept a daily log of steps walked using a pedometer. Participants met weekly to chart personal progress on the walk and participate in alternative/creative exercise.

The 4-H Health Jam was based on an experiential approach to learning. Research has shown that learning and memory are increased and improved through physically and mentally engaging activities that stimulate attention and emotions. Emotions are very important to the learning process because they drive attention, which drives learning and memory (Damasio, 1994; Pinker, 1997; Sylwester, 1995). Emotions are the "glue" that bonds the body and brain together (Sylwester, 1995). Emotions then should be an important part of learning experiences. Activities that provide the most emotional support tend to emphasize non-evaluative social interaction and engage the entire body and brain in the activity (Sylwester, 1995). The 4-H Health Jam used games, discussions, interactive projects, simulations, and cooperative learning to increase emotional responses and thereby improve attention and memory.

The 4-H Health Jam also looked to the Surgeon General's reports (1996, 2000) for guidance on how to motivate youth to participate in daily exercise and continue the physical activity efforts on an on-going basis. First, the youth engaged in a wide variety of physical exercise to not only teach them different forms of exercise,

but to help them identify forms of exercise that appeal to their personal preferences. This helped the youth to develop confidence in their ability to perform and their enjoyment of the exercise. By learning different types of physical activities that did not require special training or equipment, the youth eliminated perceived barriers to being physically active. The eight week "Walk across Kentucky" program provided the on-going support needed from peers and caring adults to complete the walk and sustain daily exercise (Physical Activity and Health: A Report of the Surgeon General, 1996, Report to the President, 2000).

Curricula and/or educational materials

- *Jump Into Food and Fitness* (Michigan State University CES): educational activities for elementary age youth in the area of physical fitness and healthy eating.
- *Get Moving Kentucky!* Physical Activity Program (University of Kentucky CES Health through Education Extension Leadership (HEEL)): resource materials for improving physical fitness and eating habits that includes background information for conducting, documenting and reporting results on the "Walk across Kentucky."

Partnerships or collaborations

The Jefferson County Cooperative Extension Service formed a collaborative partnership with the following groups to plan, conduct and evaluate the 4-H Health Jam.

- Bellarmine University School of Allied Health: conducted an experiential health and career fair during which students explored allied health careers through activities related to body systems. Students rotated through six stations where they used model clay to form healthy and unhealthy cells, created a model of the respiratory system, learned how muscles and bones work together to create movement, saw the microscopic effects of smoking on the lungs and cells, and completed other hands-on activities. The university also provided lunch for the students and staff. After the health and career fair, students toured campus, observed daily campus activities, and experienced university classroom settings and student life.
- University of Louisville School of Medicine: second-year medical student volunteers and a professor conducted Moc Doc, a simulation exercise that allowed students to role play doctor, nurse, and patient while wearing appropriate medical attire. Students diagnosed common injuries, learned how to take vital signs (pulse, respirations), locate major organs in the body, listened to the heart and lungs using a stethoscope, observed the inner ear using an otoscope, and learned about the academic preparation and requirements for medical school.

- Louisville Metro Health Department: provided staff to facilitate learning stations on the effects of diabetes on the body and how to prevent diabetes.
- Louisville Area Health Education Center: served as the Health Jam Committee liaison to recruit personnel and resources from the medical community, contacted local universities to host components of Health Jam, assisted in the development of a pre/post test, provided financial support for program activities, attended the Health Jam and assisted with the facilitation of total Health Jam program.
- Baptist East/Milestone Wellness Center: provided instructors for physical education sessions.
- Gutermuth Elementary Family Resource Center: recruited and screened participants for the Health Jam; secured completed permission forms; served as liaison between parents, students and Health Jam Committee; administered SHEE tests and Health Jam pre/posts tests; attended Health Jam and assisted in supervising students and facilitating Health Jam activities.
- Okolona Elementary Family Resource Center: same as above
- Expanded Food and Nutrition Education program: served on the Health Jam Committee and conducted "Fat Bucks" sessions, planned menus focusing on healthy meal and snack choices, attended Health Jam and assisted with facilitation of total Health Jam program.

Program Evaluation

Process

The 4-H Health Jam set a participation goal of 40 students, 20 students from each participating elementary school. Thirty-eight students were able to attend the Health Jam overnight camp which kicked-off the nine week program (Two students moved to other schools during the nine week program and reduced total enrollment to 36 students). The eight week follow-up was held for the students who attended the two-day camp. At the schools' request, follow-up sessions were conducted during the final hour of the school day once a week as opposed to after school to limit the influence of transportation needs. Since most Louisville students are bused to non-community schools, transportation becomes a major expense for after school programs.

Outcomes and Impacts

- Students completed the School Health Education Evaluation (SHEE) test prior to the 4-H Health Jam. The SHEE test is a questionnaire used nationally by school health educators to assess healthy lifestyle knowledge, attitudes and behaviors (for reliability and validity see Connell, Turner & Mason, 1985). At the end of nine weeks, students took the SHEE test a second time to determine any knowledge, attitude or behavior changes. A statistical analysis of test data concluded there was a statistically significant ($p<.05$) difference in the

pre and post SHEE test scores, indicating that the Health Jam had a significantly high impact on knowledge, attitudes and behaviors concerning healthy lifestyles.

- Students completed a pre/post test using multiple choice, true/false, and open-response questions to evaluate gains in content knowledge. The statistical analysis showed that the Health Jam made a significant difference ($p<.01$) on the student's knowledge about health careers and a significant difference ($p<.05$) on their knowledge of body systems.
- At the end of the eight week follow-up, 80% of the students had completed or exceeded the goal of 30 minutes of daily physical activity and thereby completed the Walk across Kentucky.

Communication to stakeholders

Program outcomes were reported to the University of Kentucky HEEL program through quarterly reports and a final grant report which outlined program expenditures, outcomes, and partnerships. An overview of the 4-H Health Jam program and outcomes was reported to program advisory committees, local and state government officials, 4-H program financial supporters, and University of Kentucky administrators through the 2003-2004 Jefferson County Cooperative Extension Service Annual Report and the Jefferson County 4-H Focus (Winter 2005). 4-H Health Jam coordinators were invited to present the results of the 4-H Health Jam at the 2004 Health Promotions Schools of Excellence (HPSE) Annual Conference which is sponsored by Jefferson County Public Schools. Over 55 HPSE coordinators attended 4-H Health Jam workshops.

Program sustainability

This program was first piloted in 2003 on a "shoestring" budget. Total cost of the program was approximately $25 per child. Additional resources and program support were gathered from community service agencies, 4-H advisory committees, state 4-H grants, collaborating university schools of medicine and allied health, and family resource centers. After a successful pilot program, grant funds were secured to conduct the 2004 program. Sustained outcomes increase the opportunity for additional grants that are available through the Cooperative Extension Service, National 4-H Council, State Department of Health and other agencies that are concerned with the health and well-being of youth. Because of the proven impact of the 4-H Health Jam on students' knowledge and commitment to healthy lifestyles, the Director of Jefferson County Public Schools Health Promotions Schools of Excellence is also committed to providing funding for the program and securing additional grant dollars to expand the program to more schools in Jefferson County.

Replication

This program has been replicated in Jefferson County and five of the seven surrounding suburban and rural counties. It has also been replicated in several other counties throughout the state of Kentucky. The major factor

that contributed to the success and impact of the program was the collaboration with other community agencies, local government, universities and elementary schools that are working to overcome the serious health risks to the youth of our state. Each of these partners brings a unique perspective and an additional network of resources to the issue of children's health. Through the collaboration, we were able to merge the knowledge and the resources of the community and work toward our common goal of improving the health of the youth in our community. It is only by working together in a coordinated community effort that we are going to be able to overcome the cultural norms and lifestyle habits that underlie many of the unhealthy behaviors.

The Cooperative Extension Service contributed expertise in planning, conducting, and evaluating an overnight camping program and on-going special interest groups in the public schools. Other partners contributed the knowledge and expertise in the areas of personal health and nutrition, body systems, physical fitness, and health careers.

The 4-H Health Jam uses traditional camping and club program delivery modes to address growing concerns with children's health. Because the Health Jam uses these familiar delivery modes, it is easy for youth educators to adapt these traditional programs to an overnight camp with a health and fitness theme combined with in-school or after school special interest groups. The support and camaraderie of peers and caring adults encourages youth to continue participation in the follow-up program and helps ensure the successful development of healthy lifestyle choices and habits.

Rationale and Importance of Program

Unhealthy lifestyles are not limited to the youth of Kentucky. This is an issue of serious concern for many states who are seeing rising levels of childhood obesity, diabetes, and lack of physical exercise, all of which contribute to the larger issue of chronic health problems. The 4-H Health Jam is a fun and effective way to influence the lifestyle habits of youth with proven impact on youth's knowledge in the area of health and fitness and on their personal food and exercise habits.

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